

**Abstract**

**CONTRAST AND BRIGHTNESS ENHANCING APERTURES  
FOR ILLUMINATION DISPLAYS**

5

The present invention is particularly useful for projection systems in which portions of an unwanted light beam overlap with the image beam. Such an overlap reduces the image contrast. Under the present invention, an aperture is used to restrict the extent of the unwanted beam while an integrator changes the shape of the light beam illuminating the 10 image display device. The integrator changes the illumination beam so as concentrate the light in those areas of the illumination beam that are transmitted through the aperture. When the aperture and the integrator are used together in the projection system, both the image brightness and the image contrast are increased.